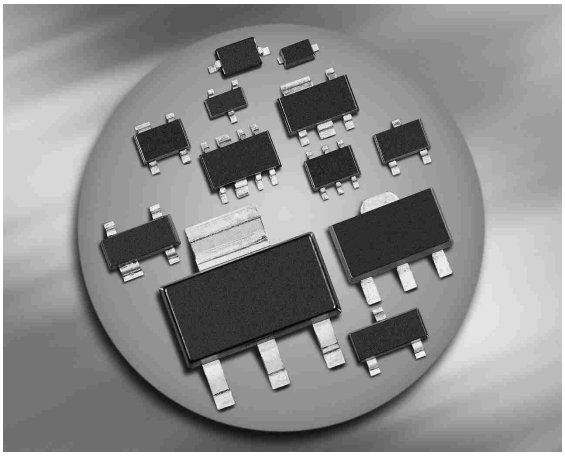
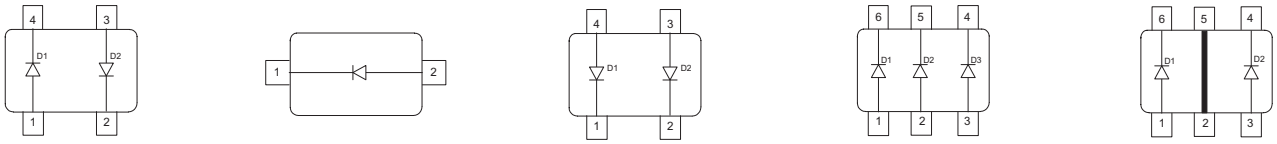
Silicon Schottky Diode

- Low barrier diode for detectors up to GHz frequencies



BAT62 **BAT62-02L** **BAT62-07W** **BAT62-08S** **BAT62-09S**
BAT62-02W **BAT62-07L4**
BAT62-03W



ESD: **E**lectro**s**tatic **d**ischarge sensitive device, observe handling precaution!

Type	Package	Configuration	L_S(nH)	Marking
BAT62	SOT143	anti-parallel pair	2	62s
BAT62-02L*	TSLP-2-1	single, leadless	0.4	L
BAT62-02W	SCD80	single	0.6	62
BAT62-03W	SOD323	single	1.8	L
BAT62-07L4	TSLP-4-4	parallel pair, leadless	0.4	62
BAT62-07W	SOT343	parallel pair	1.8	62s
BAT62-08S	SOT363	parallel triple	1.6	62s
BAT62-09S*	SOT363	parallel pair, high isolation	1.6	69s

*Preliminary Data

Maximum Ratings at T_A = 25°C, unless otherwise specified

Parameter	Symbol	Value	Unit
Diode reverse voltage	V_R	40	V
Forward current	I_F	20	mA
Total power dissipation	P_{tot}		mW
BAT62, $T_S \leq 85$ °C		100	
BAT62-02L, -07L4, -03W, $T_S \leq 108$ °C		100	
BAT62-02W, $T_S \leq 109$ °C		100	
BAT62-07W, $T_S \leq 103$ °C		100	
BAT62-08S, -09S, $T_S \leq 105$ °C		100	
Junction temperature	T_j	150	°C
Storage temperature	T_{stg}	-55 ... 150	

Thermal Resistance

Parameter	Symbol	Value	Unit
Junction - soldering point[1)]	R_{thJS}		K/W
BAT62		≤ 650	
BAT62-02L, -07L4, -03W		≤ 420	
BAT62-02W		≤ 410	
BAT62-07W		≤ 470	
BAT62-08S		≤ 450	
BAT62-09S		≤ tbd	

Electrical Characteristics at T_A = 25°C, unless otherwise specified

Parameter	Symbol	Values			Unit
		min.	typ.	max.	
DC Characteristics					
Reverse current V_R = 40 V	I_R	-	-	10	µA
Forward voltage I_F = 2 mA	V_F	-	0.58	1	V
Forward voltage matching[2)] I_F = 2 mA	ΔV_F	-	-	20	mV

[1]For calculation of R_{thJA} please refer to Application Note Thermal Resistance

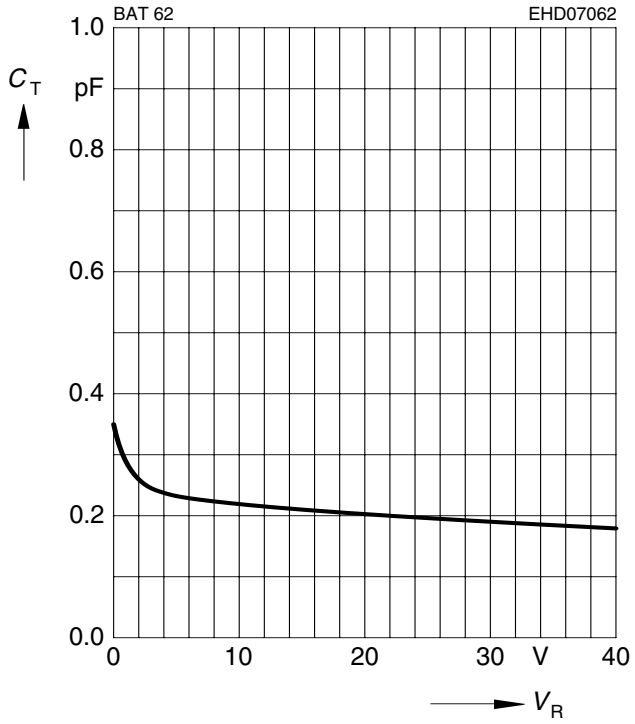
[2]ΔV_F is the difference between lowest and highest V_F in a multiple diode component.

Electrical Characteristics at T_A = 25°C, unless otherwise specified

Parameter	Symbol	Values			Unit
		min.	typ.	max.	
AC Characteristics					
Diode capacitance V_R = 0 V, f = 1 MHz	C_T	-	0.35	0.6	pF
Differential resistance V_R = 0 V, f = 10 kHz	R_0	-	225	-	kΩ

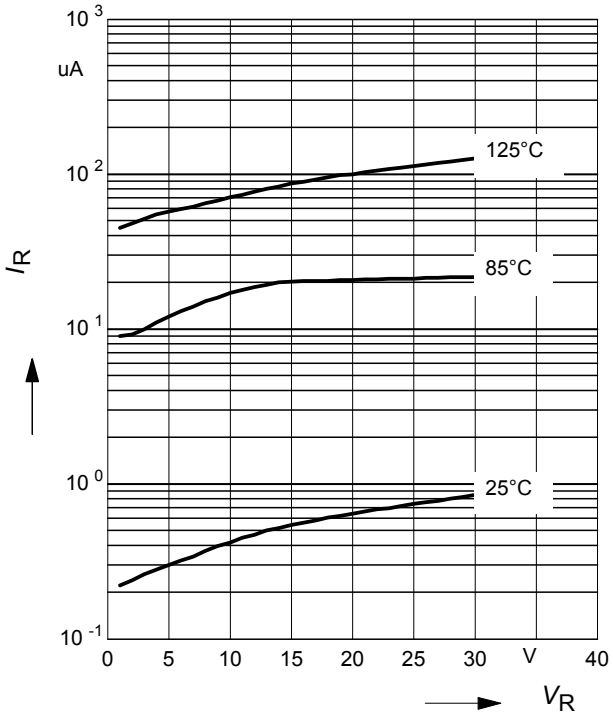
Diode capacitance $C_T = f\ (V_R)$

f = 1MHz



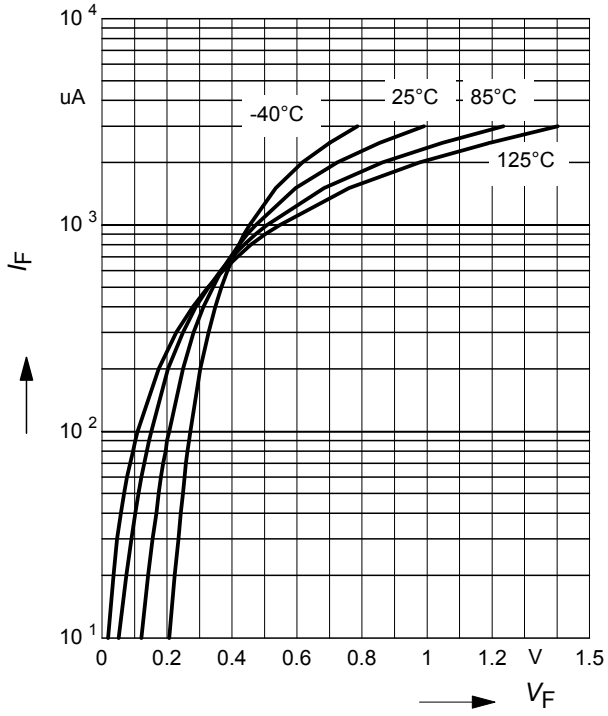
Reverse current $I_R = f(V_R)$

T_A = Parameter



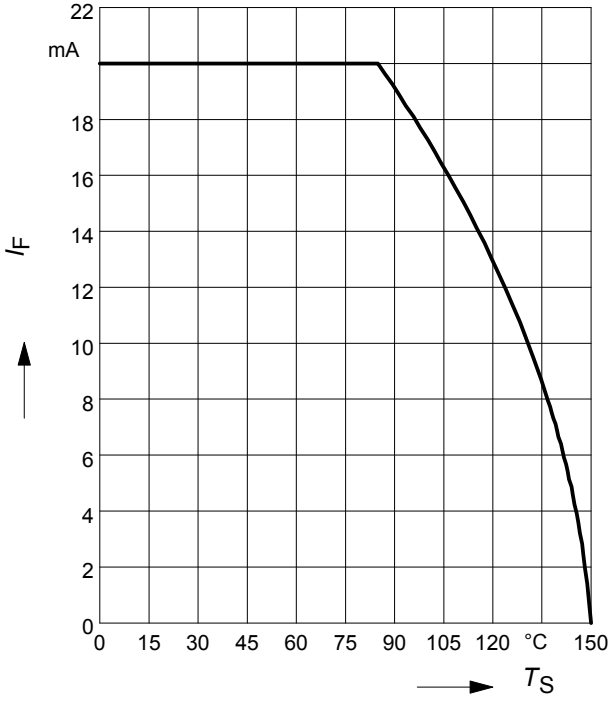
Forward current $I_F = f\ (V_F)$

T_A = Parameter

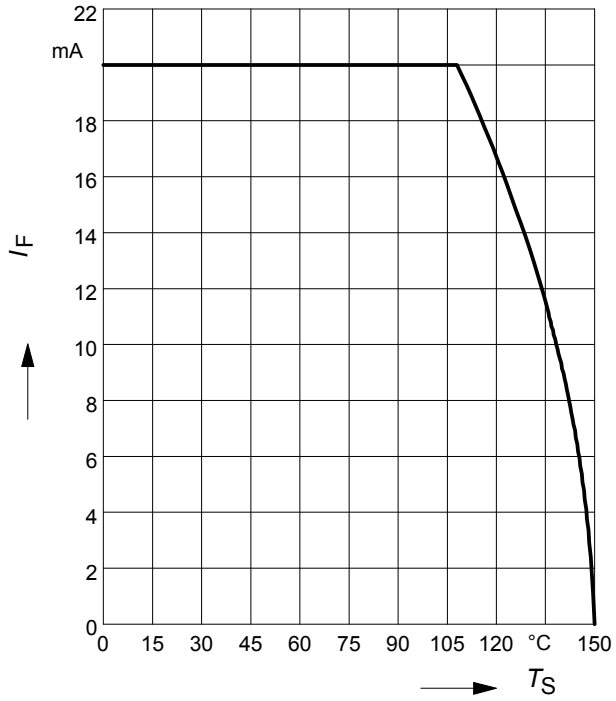


Forward current $I_F = f\ (T_S)$

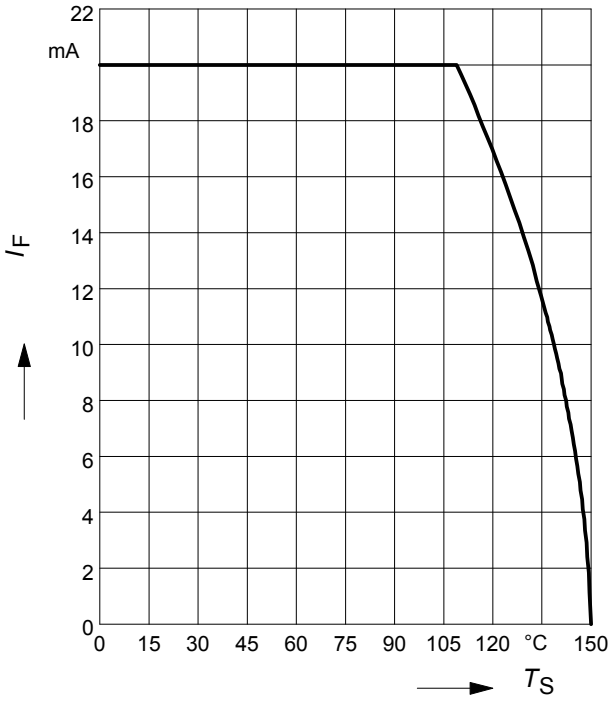
BAT62



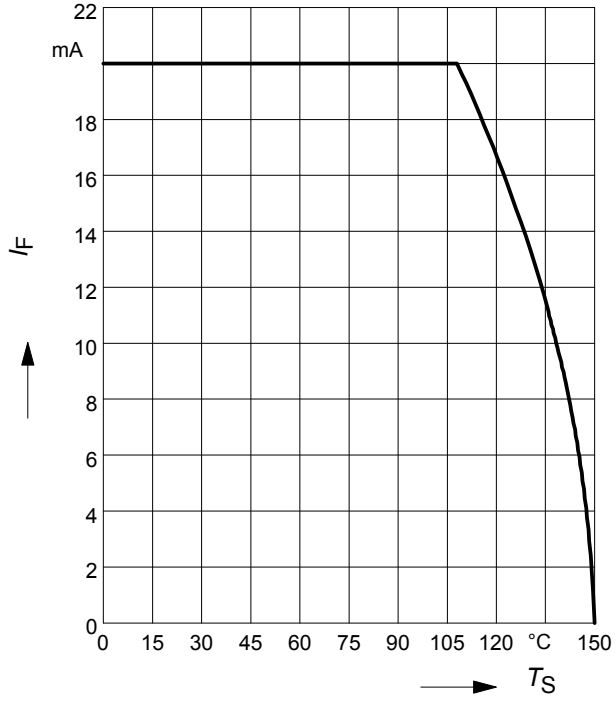
Forward current $I_F = f(T_S)$
BAT62-02L, -07L4



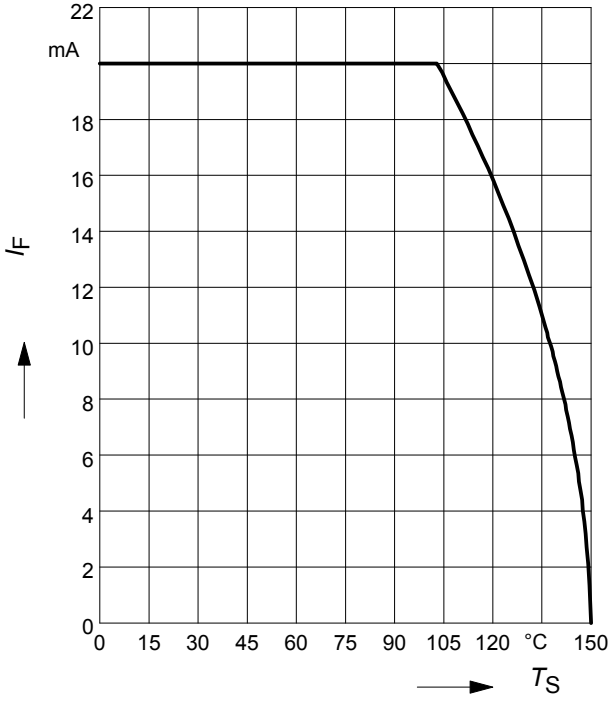
Forward current $I_F = f(T_S)$
BAT62-02W



Forward current $I_F = f(T_S)$
BAT62-03W

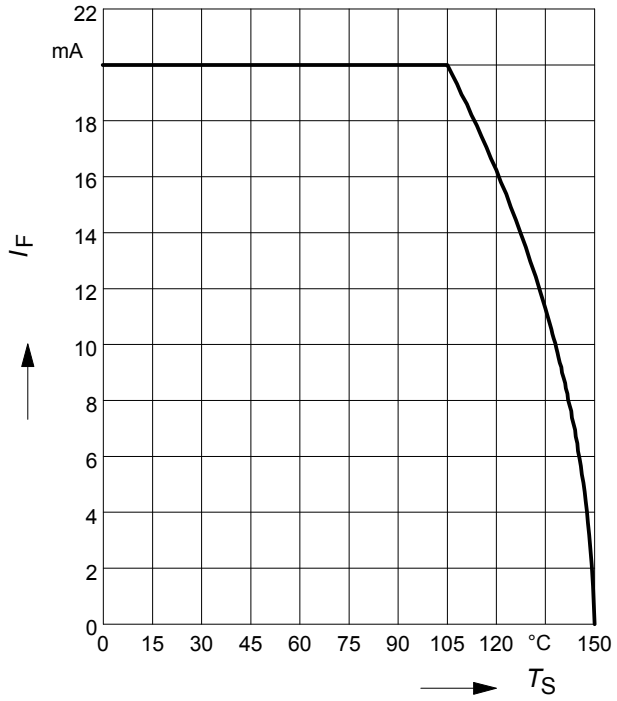


Forward current $I_F = f(T_S)$
BAT62-07W



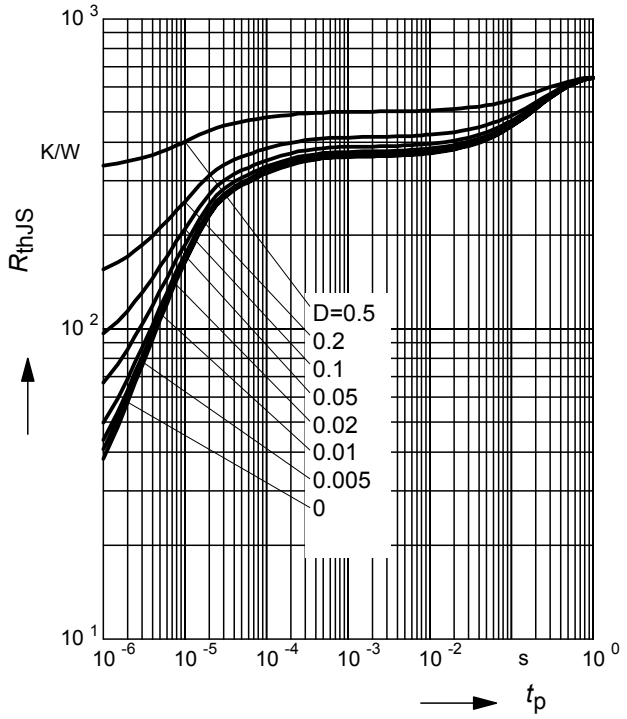
Forward current $I_F = f(T_S)$

BAT62-08S



Permissible Puls Load $R_{thJS} = f(t_p)$

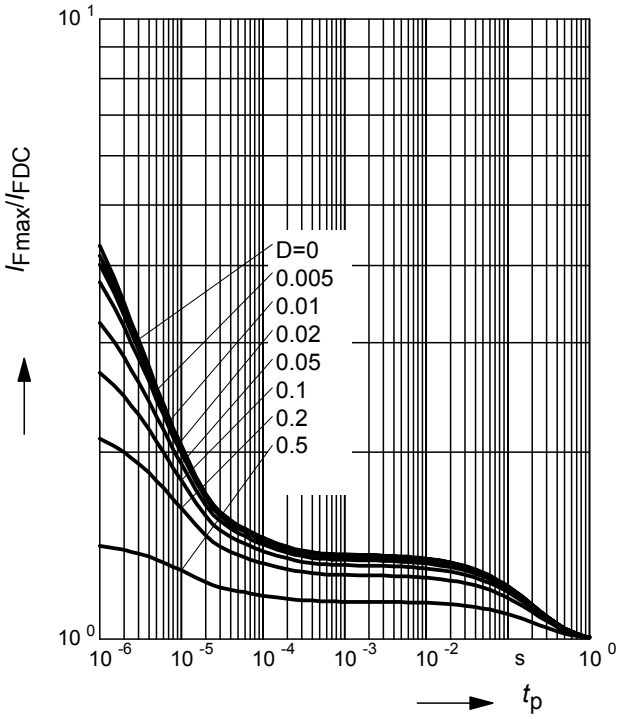
BAT62



Permissible Pulse Load

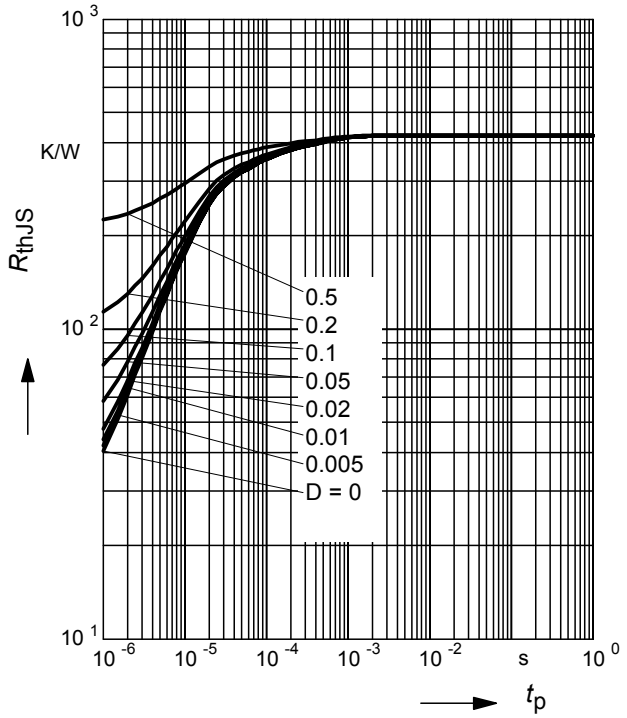
$I_{Fmax}/ I_{FDC} = f(t_p)$

BAT62



Permissible Puls Load $R_{thJS} = f(t_p)$

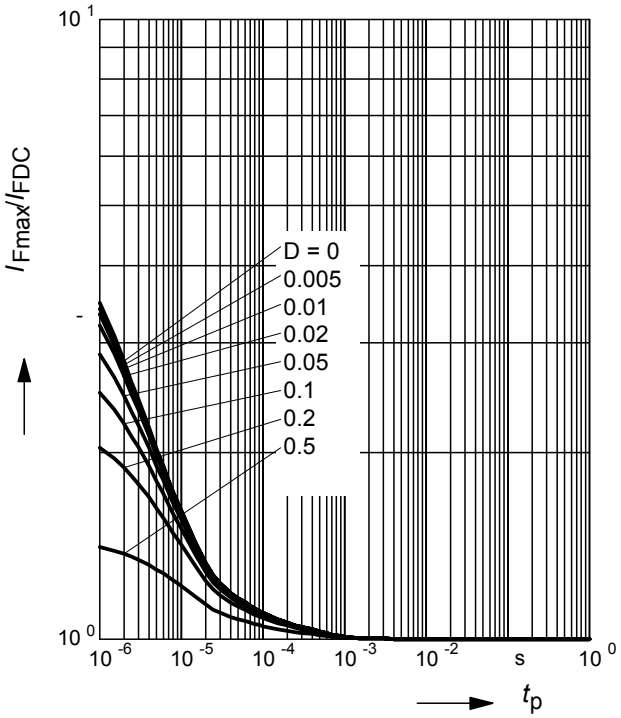
BAT62-02L, -07L4



Permissible Pulse Load

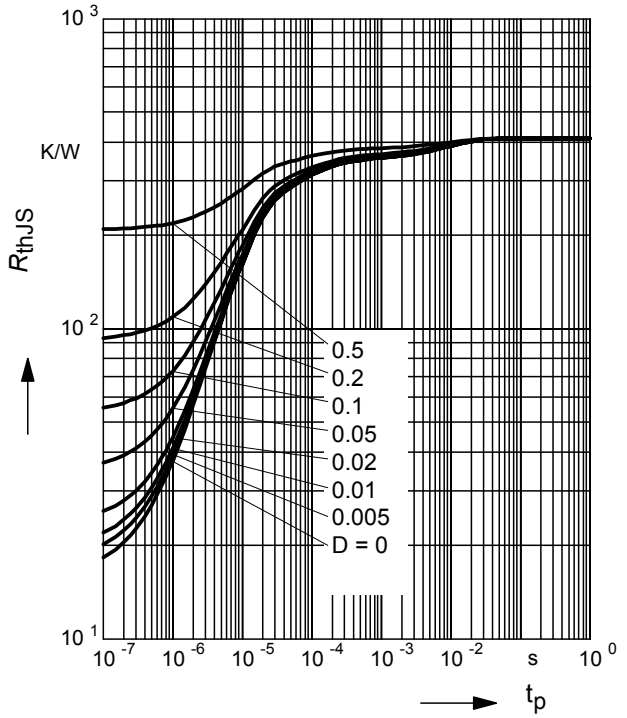
$I_{Fmax}/ I_{FDC} = f(t_p)$

BAT62-02L, -07L4



Permissible Puls Load $R_{thJS} = f(t_p)$

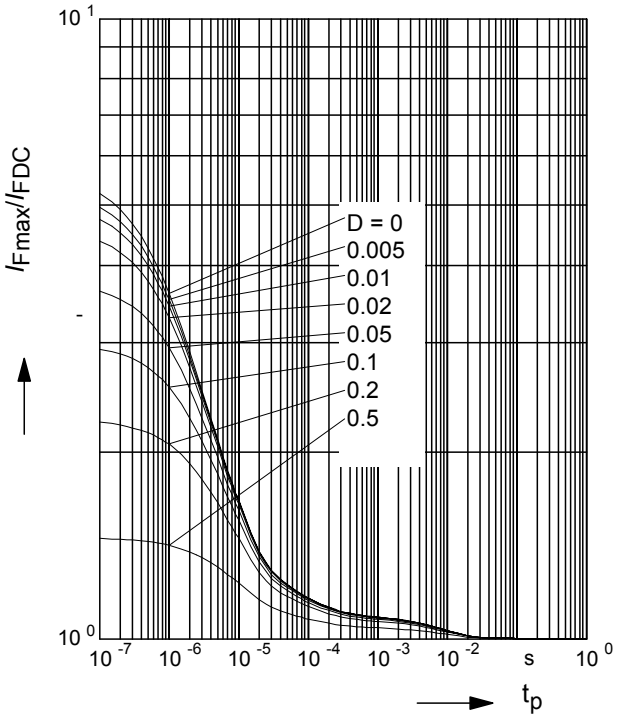
BAT62-02W



Permissible Pulse Load

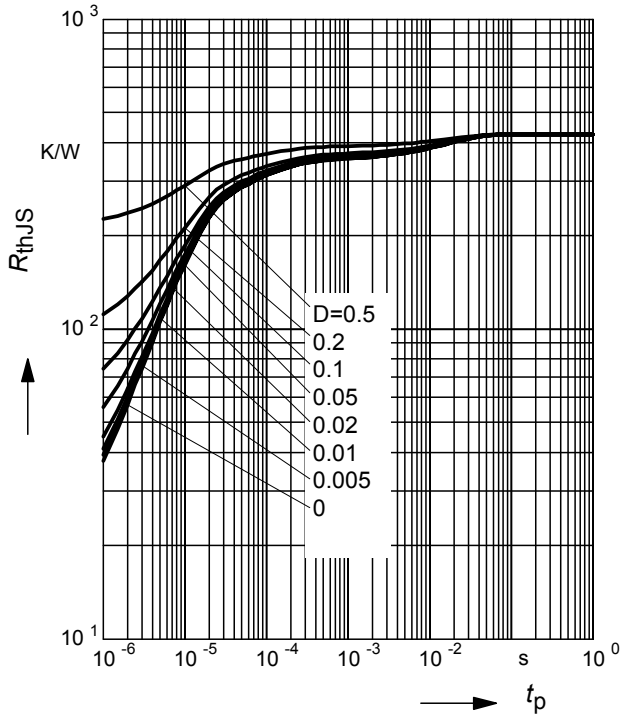
$I_{Fmax}/ I_{FDC} = f(t_p)$

BAT62-02W



Permissible Puls Load $R_{thJS} = f(t_p)$

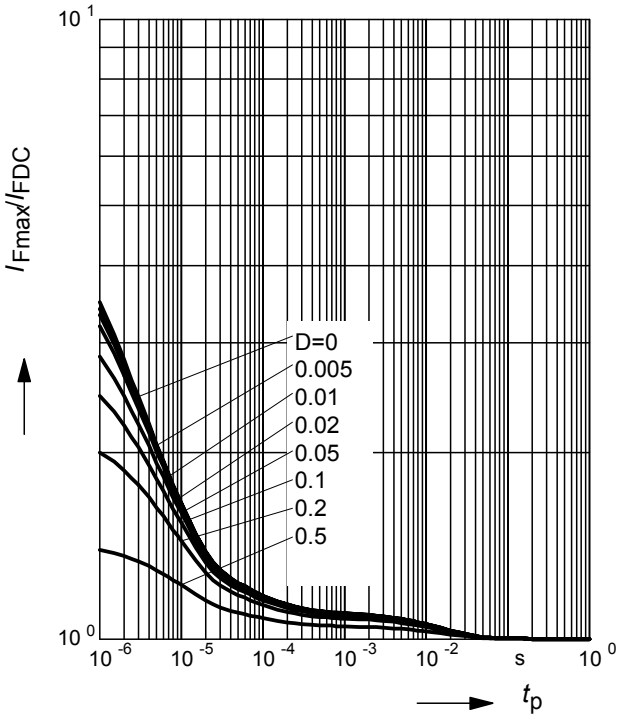
BAT62-03W



Permissible Pulse Load

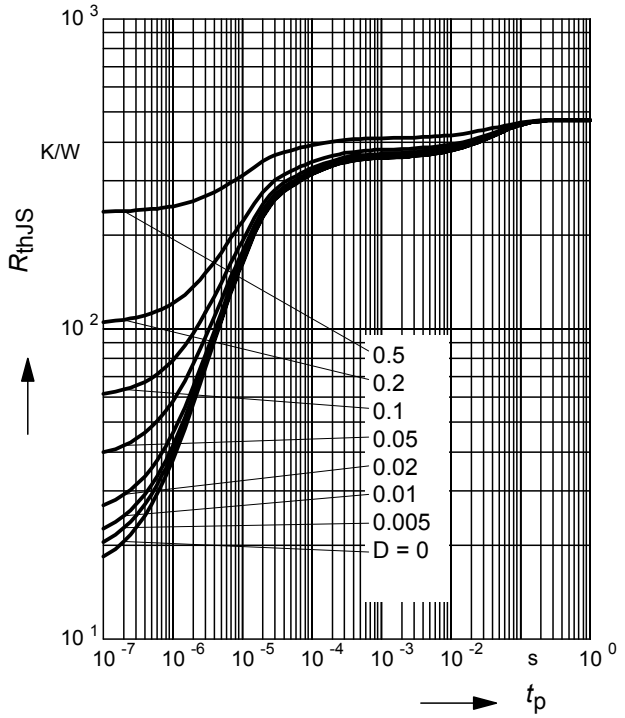
$I_{Fmax}/I_{FDC} = f(t_p)$

BAT62-03W



Permissible Puls Load $R_{thJS} = f(t_p)$

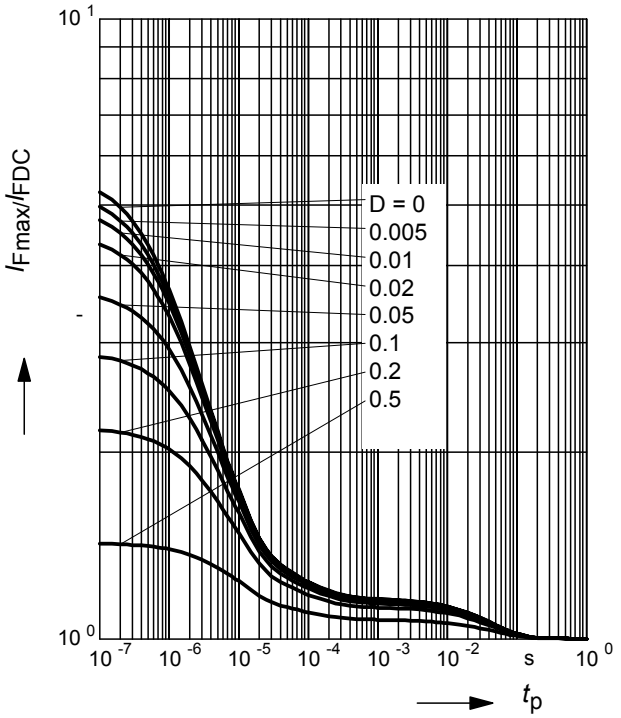
BAT62-07W



Permissible Pulse Load

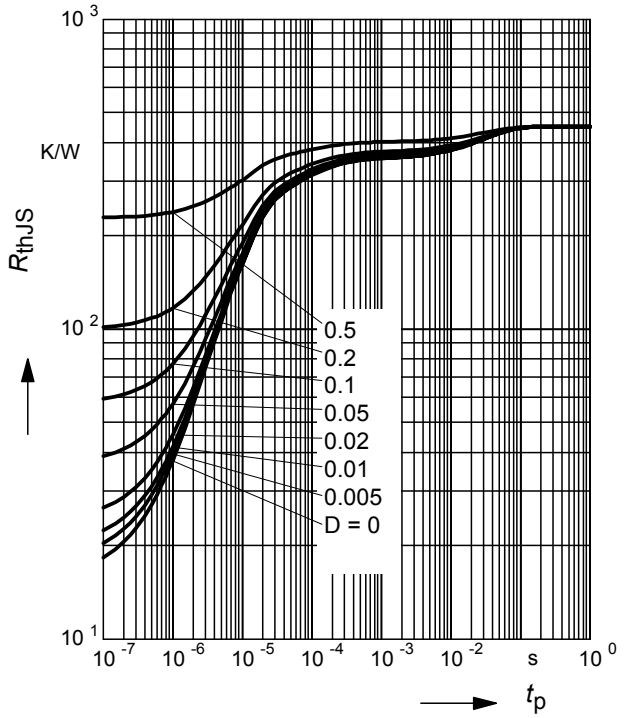
$I_{Fmax}/I_{FDC} = f(t_p)$

BAT62-07W



Permissible Puls Load $R_{thJS} = f(t_p)$

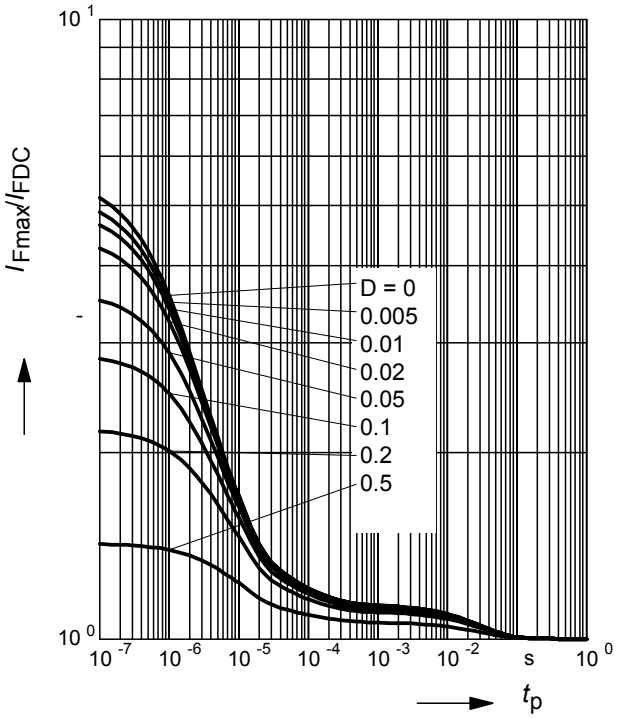
BAT62-08S



Permissible Pulse Load

$I_{Fmax}/ I_{FDC} = f(t_p)$

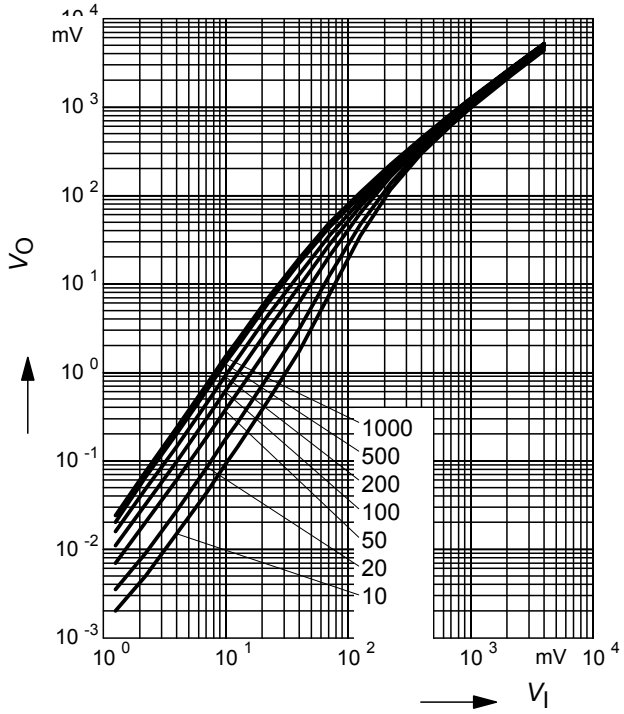
BAT62-08S



Rectifier voltage $V_{out} = f(V_{in})$

f = 900MHz

R_L = Parameter in kΩ



Testcircuit

